1- A list of all the products currently available for purchase should be displayed.

2- Products are defined by a serial number, a name, a vendor, a category, and a price. Furthermore, a count of the remaining parts from each category should be available.

3- Registration and login
   A- he will enter his balance during the registration process.

4- Customers can make an order that includes one or more products.

5- Furthermore, a customer can make a compound order, where that order can include various orders headed to nearby locations, in addition to his own products, to lessen the shipping fees. For instance, a customer can make a compound order for himself and two of his friends, who all live in different locations in El-Dokki.

6- You should be able to list all the details of both simple and compound orders.

7- To place a compound order, the customer needs to pick his products, and his friends' orders as well. Once the order is placed, the balance of each order is deducted from its corresponding customer.

8- After placing the order, the user can ship the order. For simple orders, when an order is shipped, its shipping fees are deducted from its customer's account. For compound orders, when an order is shipped, its shipping fees are deducted from all the customers who participated in the compound order.

9- Customers can cancel an order placement, or cancel only its shipping within a pre-configured automated duration. Such cancellations should be updated appropriately within the system.

10- notification center:
   A. various channels like (email and SMS).
   B. for each operation, there is a template notification for it.
   C. for each template, u need to replace the "placeholders" within the content of these templates to be replaced with "actual values".
   D. 2 languages at least (English and Arabic).
   E. 2 different templates for the order placement.
   F. 2 different templates for the order shipment.
   G. Each of these templates should have different text.
   H. Each of these templates should have a different number of placeholders.
   I.   This templates should be made before the launching of the system.

12- By now you should be able to develop web services and APIs. In this assignment you are required to develop a RESTful API for this software. Hence, all the requirements need to be exposed as a RESTful API. For example, to be able to achieve a requirement for login, you would need to provide the following API functions within your implementation: GET /user/check A service to check if the user exists or not. This service returns all user info if there exists Input: email and password.

Note: The web service API should be structured in terms of Resources and actions. So you should have a section for each resource and each resource should contain the corresponding actions.

Subsystems

1. Authentication and Authorization Subsystem.
    a. Registration subsystem.
    b. Login subsystem.
2. Product Management.
    a. Add product.
    b. Remove product.
3. Category Management.
    a. Add category.
    b. Remove category.
    c. Divide products into categories.
4. Order Management.
    a. Simple Order.
    b. Compound Order.
    c. Order Creation.
    d. Order Cancelation.
        i. The user can cancel the order at a specific time.

e. Balance management.
    f. Shipping Fees management.
5. Notifications Center.
    a. There are 2 types of notifications (Email, and SMS).
    b. Template Definition.
    c. Sending Notification.
    d. Manage the notification queue.

Classes.

Model Classes:
1. User
    a. Username.
    b. Name.
    c. Email.
    d. Password.
    e. Phone Number.
    f. Address.
    g. Balance.
2. Product
    a. Serial Number.
    b. Name.
    c. Category.
    d. Vendor.
    e. Price.
3. Category
    a. Serial Number.
    b. Name (enum).
    c. Description.
    d. Products.
4. Order
    a. Simple Order.
        i. Products
        ii. Total Price.
        iii. Address.
        iv. Products' Prices.
        v. Shipping Fees.
        vi. User

     b. Compound Order.
- i. Simple Orders.
- ii. Products.
- iii. Products' Prices.
- iv. Shipping Fees
- v. Address
- vi. Area (enum)
- vii. Super User

Controller Classes:
1. Notification
2. Authentication
3. Order
4. Payment
5. Product
6. Category